WE CLAIM:

1. A communications system comprising a satellite mobile communications network which comprises a plurality of satellites and a plurality of user terminals communicating on satellite uplink and downlink bands; and a terrestrial mobile communications network which comprises a plurality of base stations and a plurality of user terminals communicating on terrestrial uplink and downlink bands; characterised in that at least one of the terrestrial bands at least partly reuses at least one of the satellite bands.

2. A system according to claim 1, in which said base stations comprise second base stations reusing said satellite bands, said second base stations being provided only in areas where the path from said satellites to the user terminals will be shadowed.

3. A system according to claim 2, in which said areas are enclosed spaces.

4. A system according to claim 2, in which said areas are urban areas.

5. A system according to claim 1, in which said satellite mobile communications network communicates in frequency-divided fashion, using relatively narrow frequency channels within said bands.

6. A system according to claim 1, in which said terrestrial mobile communications network communicates in code-divided fashion, using relatively wide frequency channels within said bands.

7. A system according to claim 1, in which said terrestrial uplink and downlink bands at least partly reuse said satellite downlink band.

8. A system according to claim 7, in which said terrestrial bands do not reuse said satellite uplink band.

9. A system according to claim 1, in which said terrestrial uplink and downlink bands at least partly reuse said satellite uplink band.

10. A system according to claim 9, in which said terrestrial bands do not reuse said satellite downlink band.

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11. A system according to claim 1, in which said terrestrial uplink band reuses said satellite uplink band, and said terrestrial downlink band reuses said satellite downlink band.

12. A system according to claim 1, in which said terrestrial downlink band reuses said satellite uplink band, and said terrestrial uplink band reuses said satellite downlink band.

13. A system according to claim 1, further comprising a channel allocator allocating channels to be used by at least one of said networks, in dependence upon the frequencies allocated to the other.

14. A system according to claim 13, in which the channel allocator is arranged to control the frequencies allocated to both said networks.

15. A system according to claim 13, in which the channel allocator is arranged to allocate a channel for use by a terminal to communicate with one of said networks initially from a set of frequencies not used by the other

said network in the region of the terminal, where such a non-interfering frequency is available.

16. A system according to claim 13, in which the channel allocator is arranged to allocate a channel for use by a terminal to communicate with one of said networks from a set of frequencies also used by the other said network in the region of the terminal, provided that less than a predetermined measure of interference is thereby reached.

17. A system according to claim 16, in which said level is determined by a number of said channels.

18. A system according to claim 16, in which, when said level is reached, the channel allocator is arranged to use frequency planning and terminal and network location information to dynamically allocate shared frequency channels.

19. A dual mode user terminal for use in a system according to any claim 1.

20. A terminal according to claim 19, in which there is provided a common radio frequency circuit shared by a satellite system control circuit and a terrestrial system control circuit.

21. A terminal according to claim 19, arranged to cease usage of frequencies shared between the satellite and terrestrial systems on detection of predetermined conditions associated with the proximity of said terrestrial mobile communications network, to prevent interference therewith.

22. A terminal according to claim 21, in which the predetermined conditions comprise detection of a control signal transmitted by a said satellite.

23. A terminal according to claim 21, in which the predetermined conditions comprise detection of a signal transmitted by a said base station.

24. A terminal according to claim 21, in which the predetermined conditions comprise detection of a signal transmitted by a user terminal in the terrestrial uplink band.

25. A satellite communications network for use in the system of claim 1.

26. A network according to claim 25, comprising a control station arranged to reduce use of said satellite downlink and/or uplink in regions around one of said base stations.

27. A network according to claim 25, comprising a control device arranged to transmit a control signal to satellite user terminals in regions around one of said base stations to cause said user terminals to reduce use of said satellite uplink.

28. A terrestrial communications network for use in the system of claim 1.

29. A network according to claim 28, comprising a control device arranged to transmit a control signal to satellite user terminals in regions around one of said base stations to cause said user terminals to reduce use of said satellite uplink.

30. A method of allocating communications spectrum to base stations of a terrestrial mobile communications network, in which a frequency band interferes with channels of a satellite communications system, comprising allocating said frequency band preferentially to base stations in areas where shadowing will reduce the level of communications with the satellites of said satellite communications system.

31. A method of reusing frequency bands between base stations of a terrestrial mobile communications network and a satellite communications network, comprising allocating said frequency bands using integrated resource management and other mitigation techniques in a way to minimise interference between both the systems and thus making optimum usage of valuable frequency spectrum.